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Adjustment Disorder: When is a Disorder not a disorder or a disorder not a Disorder?

INTRODUCTION

The American classification system of mental disorders, DSM-I (APA 1952), contained two categories of childhood psychiatric disorders: childhood schizophrenia, and adjustment reaction ⁽¹⁾.

This early form of adjustment disorder included responses to internal mental events, as well as external stressors, and the assumption that children's psychiatric problems were always transient. The definition of adjustment disorder has become more precise in recent years (Hill 2002).

Hill (2002) noted the "curious distinction" of adjustment disorder as having "no characteristic psychopathological picture" in ICD-10 (WHO 1992) or DSM-IV (APA 1994). The emphasis in diagnosis is upon the lack of other mental disorders, and the short-term reaction to stressful life events.

Child psychiatrists in the US have used the label "adjustment disorder" because they felt it did not stigmatise the patient (Setterburg et al 1991). On the other hand, adjustment disorder has been described as a "waste basket" diagnosis, used in such a vague and all encompassing manner as to be useless" (Fard et al 1979).

DIAGNOSTIC CRITERIA

In ICD-10, adjustment disorder is distinguished from acute stress reaction (ICD-10) and acute stress disorder (DSM-IV-TR; APA 2000), and Post-Traumatic Stress Disorder ⁽²⁾. The core of diagnosis is "subjective distress or emotional disturbance, usually interfering with social functioning and performance ..in a period of adaptation to a significant life change or the consequences of a stressful life event."

The symptoms of distress and disturbance will not be severe enough to obtain a specific diagnosis (eg: "some degree of disability in performance or daily routine"), like depression, and the duration of the symptoms "will not normally exceed six months".

For Barker (2004), the key is that "the disorder would not have arisen if the subject had not experienced the stressful circumstance(s) to which it is being attributed".

ICD-10 allowed for different sub-types of adjustment disorder:

- Brief depressive reaction

- Prolonged depressive reaction
- Mixed anxiety and depressive reaction
- With predominate disturbance of other emotions; eg: regressive behaviour like bed-wetting
- With predominate disturbance of conduct; eg: dissocial behaviour
- With mixed disturbance of emotions and conduct
- With other specified predominate symptoms

The definition of adjustment disorder in DSM-IV is similar: "marked disproportionate distress coupled with significant impairment of social, occupational or academic function" in response to an identifiable stressor. While DSM-IV-TR emphasised the development of "clinically significant emotional or behavioural symptoms in response to an identifiable psychosocial stressor or stressors".

DSM-IV-TR included the subtypes: "depressive mood", "anxiety", "mixed anxiety and depressive mood", "disturbance of conduct", "mixed disturbance of emotions and conduct", and "unspecified".

Overall adjustment disorder embodies certain key components (Hill 2002):

a) Distress beyond the normal range but not severe enough for a major mental disorder category;

b) Not an exacerbation of previously existing psychopathology;

c) Onset caused by an identifiable stressor;

d) Duration short-term.

PREVALENCE OF ADJUSTMENT DISORDER

Using recent definitions of adjustment disorder, studies have found prevalence rates of about 4% for the general population ⁽³⁾, and about twice that for clinical populations ⁽⁴⁾.

While within a specific population, those children diagnosed with diabetes, 36% of 92 were classed as showing adjustment disorder (Kovac et al 1995).

DSM-IV (APA 1994) stated a prevalence of between 5-20% would be expected.

PROBLEMS WITH ADJUSTMENT DISORDER AS A CATEGORY

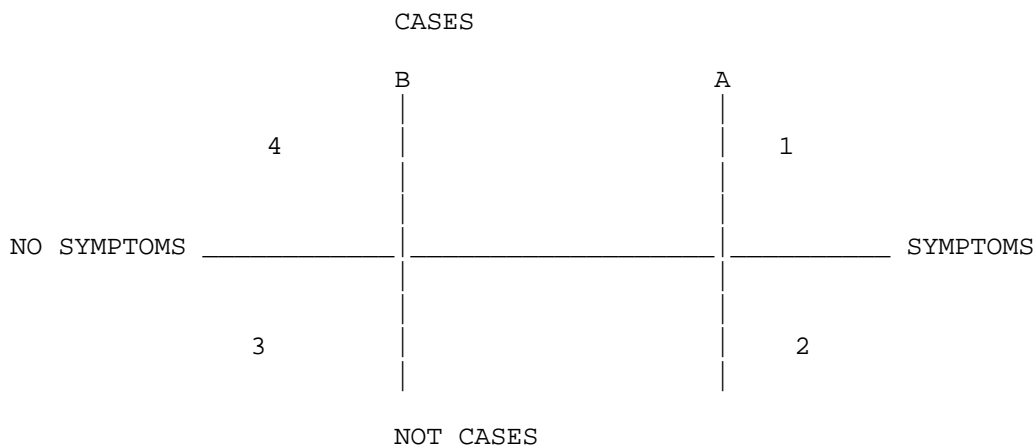
i) How to define it

Attempting to diagnose adjustment disorder can take two paths, both with problems:

a) The threshold number of symptoms. However, it is possible that children may be suffering even with less than the threshold number of symptoms for diagnosis (Harrington and Clark 1998). For example, the presence of five or more depressive symptoms for longer than two weeks is "major depressive episode", but less than five of the same symptoms means "adjustment disorder" (Casey et al 2001).

b) The presence of impairment in functioning. How to establish the cut-off point for impairment? This is usually done by consensus.

But the level chosen as the cut-off point can produce different rates of the disorder: using the Children's Global Assessment Scale (CGAS) (Shaffer et al 1983), for example, Bird et al (1988) diagnosed 7.6% or 4.2% of Puerto Rican children with adjustment disorder depending on the cut-off scores used (70 or 60 respectively). Figure 1 shows the problems establishing a cut-off point for impairment.



(After Fombonne 2002)

- 1 = true positive: those with disorder correctly diagnosed
- 2 = false positive: those not with disorder diagnosed with it
- 3 = true negative: those without disorder correctly diagnosed without
- 4 = false negative: diagnosed as without disorder but have it (5)

Figure 1 - Cut-off points for defining a disorder.

In figure 1, cut-off point A means few false-positive but misses many false-negatives, while cut-off point B includes most true cases of the disorder in true-positive but also a large number of true-negatives.

Pincus et al (1999) have argued for the abolition of adjustment disorder, and for the inclusion of "subthreshold categories" of the major mental disorders (ie a milder version with less symptoms or a lower threshold for impairment).

ii) Definition of "normality"

If adjustment disorder is an abnormal pattern of adjustment to stressors, what is the normal pattern? This is a problem to accurately define, and different approaches are taken:

a) Deviation from the normal react pattern to a particular stressor. This can be tricky as "normality" is hard to define, and depends upon both the time period and the culture (Brewer 2001a).

b) Presence or absence of a high number of symptoms.

c) Excessive duration of symptoms - but reactions to divorce, for instance, depend on the child's age, and what happens to family relationships afterwards (Kelly 2000).

d) Adaptive vs maladaptive response - an adolescent taking an overdose may seem maladaptive, but, on the other hand, it may be a means to communicate need and gain help (Hill 2002).

Attempts at defining normal coping reactions have looked at different types of life events: normative stressors experienced by all children (eg: separation from the parent(s) at school), non-normative stressors (eg parental bereavement) experienced by some children, and daily hassles (minor, but cumulative). The stressors are influenced by amount, timing, and synchronicity. Other factors include predictability/unpredictability of event, characteristics of the child, and social support (Hill 2002).

Casey et al (2001) argued that as psychiatry "increasingly allies itself with the biological sciences", the situation arises that "transient depressive responses to stressful events are increasingly regarded as illness". But it can be that unhappiness and distress are "appropriate homeostatic responses" that are neither pathological nor in need of treatment (Regier et al 1998).

iii) Timing of adjustment disorder

Contained within the definitions of adjustment

disorder are the specification of time of onset (between one month and maximum of three months after the stressful event), and the duration of the disorder (six months maximum) (6). The exact timing of the disorder will depend upon a number of factors for onset: if the stressor was one-off or daily, and the duration will be influenced by the reaction of carers, particularly if they had been exposed to the same stressful event (Hill 2002).

Kovacs et al (1995) looked at children first diagnosed with diabetes as the stressful life event. At three months after first diabetes diagnosis, 31 of the children were classed as having adjustment disorder. Only two more children were diagnosed with adjustment disorder in the following three months. In terms of duration of adjustment disorder, the researchers found the average to be three months, but with five children lasting up to 9 months.

Hill (2002) felt that nine months would seem "more valid" for the duration of adjustment disorder.

iv) Is adjustment disorder different to other disorders?

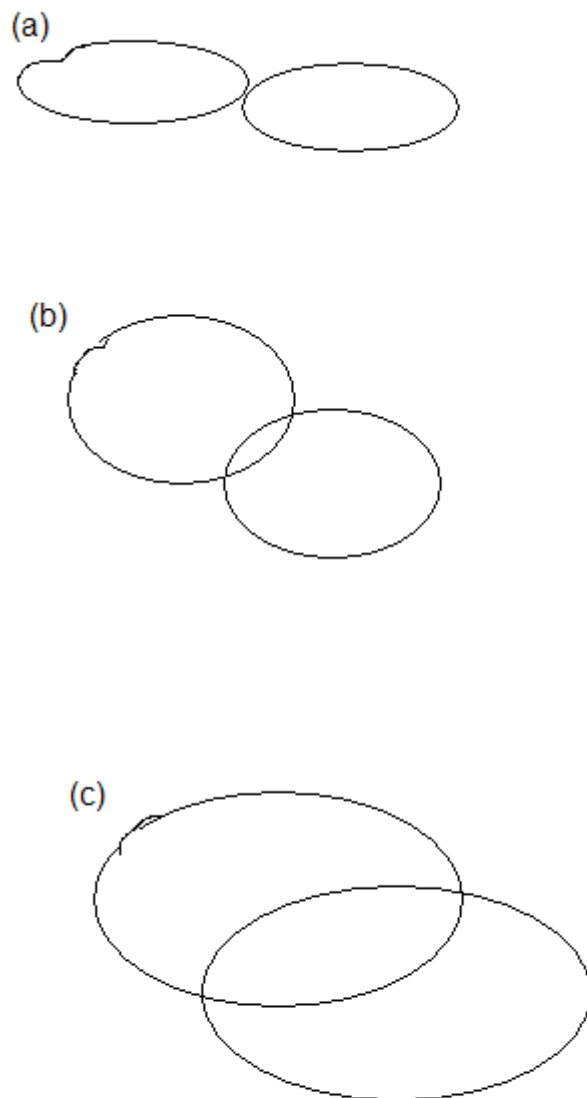
Kovacs et al (1994) found that of the children with adjustment disorder after diagnosis of diabetes, the majority (30 of 33) had the depressive subtype or mixed anxiety and depression subtype. But are these subtypes of adjustment disorder distinct, and different to the main mental disorder categories of depression or mixed anxiety and depression?

One distinction could be in the lower rates of suicidal behaviour in adjustment disorder, found by Kovacs et al (1993), compared to the depression categories of mental disorders. While among Finnish adolescents and young adults who killed themselves between 1978-87, eleven cases had adjustment disorder (Martunnen et al 1994).

Casey et al (2001) have argued that the concept of "depression" is "over-elastic". For example, Snaith (1987) noted critically how "mild depression" included grief at loss, frustration at failure, despair, disillusionment, and pessimism.

The nature of the overlap between adjustment disorder and other disorders can take a number of forms. Figure 2 uses the example of the depressive subtype of adjustment disorder and depression. Psychiatrists who support the current category of adjustment disorder would hope, in figure 2, for situation (a), or (b) at the worst. Whereas situation (c) challenges the need for a

separate category of mental disorder called adjustment disorder.



Situation (a): small overlap of symptoms
Situation (b): moderate overlap of symptoms
Situation (c): high overlap of symptoms

Figure 2 - Possible relationships between adjustment disorder: depressive subtype and depression.

v) Validity of diagnosis

Validity is concerned with whether the

classification of symptoms actually shows an underlying illness (Brewer 2001b).

This can be studied by the course of the disorder following diagnosis (predictive validity). In other words, if adjustment disorder is transitory, is this the case?. For example, Cantwell and Baker (1989)'s four-year follow-up of nineteen children diagnosed with adjustment disorder at a speech and language clinic found a recovery rate of only 26%.

But Andreasen and Hoenk (1982) reported that 79% of adult in-patients were well five years after first admission.

The concurrent validity (7) of the criteria for adjustment disorder is open to question because no one clinical picture emerges of a sufferer: "The child may be anxious, depressed, angry, oppositional, distracted, or otherwise upset" (Barker 2004).

It is not clear what the main symptoms of adjustment disorder are, and, at the same time, Barker's (2004) child psychiatry textbook recommended that: "The diagnostic criteria set out in DSM-IV-TR and ICD-10 should be taken into account, but they should not be interpreted too rigidly" (p124). But how are individuals being diagnosed then?

vi) Care about assuming that particular life events cause negative symptoms.

Not all life events will inevitably lead to negative reacts as associated with adjustment disorder. For example, divorce can act as developmental stimulus for some adolescents (Wallerstein and Kelly 1980).

CONCLUSIONS

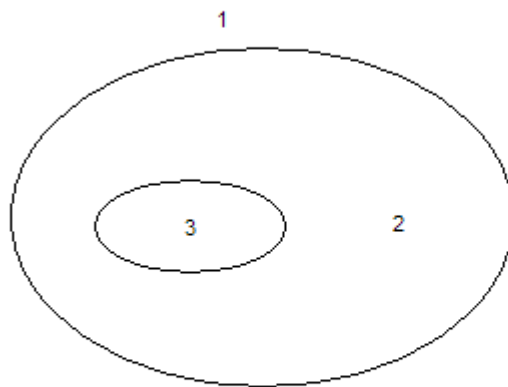
Despite their concerns about adjustment disorder, the psychiatrists, Casey, Dowrick and Wilkinson are positive:

Although some will argue that the labelling of adjustment disorder in current classifications reinforces the medicalisation of distress...we believe that its value lies in identifying those not requiring any treatment from those with similar symptoms and dysfunction who require and benefit from specific interventions (Casey et al 2001 pp480-1).

However, with the growing concern about the increasing medicalisation of life and pathologising of ordinary experience (Brewer 2001a; 2003), I am not sure we need categories of mental disorder just to tell people

that they are alright. Will DSM-V and ICD-11, in the future, allow psychiatrists to diagnose "Perfectly Alright Disorder", which does not need treatment (at the moment)?

Thus the situation arises where negative response options to life events, that are acceptable (ie: not pathological) are very limited, or the time allowed for the response is restricted (figure 3).



1 = possible responses
2 = defined as pathological
3 = non-pathological responses

Figure 3 - Negative responses to life events, and the medicalisation of life and pathologisation of ordinary experience.

Moncrieff (2000) noted that:

Variation in mood is a characteristically human way of responding to circumstances but unhappiness has become taboo in the late twentieth century, perhaps because it undermines the image that society wishes to project. Medicalisation diminishes the legitimacy of grief and discontent..(p25).

"Consumer capitalism" (Brewer 2001a) ⁽⁸⁾ desires to project the image of a happy society because of the marvellous consumer goods available. Any unhappiness or negative emotions, other than in a restricted or controlled way or defined as a disorder, would challenge such a society.

FOOTNOTES

1. ICD-9 (WHO 1978) first recognised adjustment disorder. Before that, the term "transient situational disturbance" was used.

2. Acute stress reaction is based upon an extreme short-term (eg: hours) reaction to life threatening events (eg: acute bewilderment). Post-Traumatic Stress Disorder is a more long-term reaction to such events based around re-experiencing of the traumatic event (Yule 2002). Adjustment disorder is seen a medium-time reaction to less severe life events.

The nature of how stressful life events affect children is not straightforward, and it is not inevitably traumatic. Other factors, like past experiences of stressful life events or type of life event, need to be considered (Sandberg and Rutter 2002).

ICD-10 also includes the categories "other reactions to severe stress" and "reaction to severe stress, unspecified".

3. For example, 4.2% DSM-III Puerto Rican 4-16 year-olds (Bird et al 1989); 3.4% of 8-9 year-olds in Finnish birth cohort (Almqvist et al 1999).

4. For example, 7% among 800 children and adolescents at a Pennsylvania day-unit (Doan and Petti 1989); 5.9% (Steinhausen and Erdin 1991), but 29% of outpatients at Finnish clinic (Pelkonen et al 2000) and 34% of US adolescent psychiatric inpatients (Greenberg et al 1995).

5.	HAS DISORDER		
	YES	NO	
DIAGNOSED WITH DISORDER	YES	true positive	false positive
	NO	false negative	true negative

6. The "prolonged depressive reaction" subtype of adjustment disorder in ICD-10 allowed for a duration not exceeding two years.

7. Concurrent validity is the existence of common characteristics among all sufferers of the same disorder (Brewer 2001b). Content validity is the surface appearance of the disorder, and can be established by comparing those with a diagnosis and those without a diagnosis of adjustment disorder on a number of criteria; eg: vulnerability to stress (Casey et al 2001).

8. "Consumer capitalism" is based upon inevitable continuous economic growth (ie selling more products and increasing profits each year), but this takes place in saturated markets (individuals have enough products for survival), and thus requires more aggressive marketing techniques.

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KEVIN BREWER

Article written December 2004

Experimental Replications on Obedience since Milgram

INTRODUCTION

Stanley Milgram summarised in 1974 his findings from many years of experimental research into obedience in the 1960s. The findings about the tendency of ordinary individuals to obey authority figures were very important in the history of psychology.

In his experiments, Milgram made naive participants (acting as the teacher) believe that they were giving real electric shocks to a learner ("victim") in order to test memory and punishment. No electric shocks were actually administered, and the behaviour of the "victim" was acting. At the end of the experiment, the participants were told the truth.

The reaction to this study and concern about the ethics of the methodology limited the amount of subsequent research into obedience (Brewer 2001b). However, a small number of replications or similar studies were performed, mainly in the 1970s and 1980s.

Table 1 compares the level of baseline obedience (ie the number of participants who gave maximum electric shocks or maximum scores) found in ten studies including Milgram's original experiment.

STUDY	COUNTRY	BASELINE LEVEL OF OBEDIENCE (%)
Meeus and Raaijmakers (1986;1995)	Holland	91
Miranda et al (1981)	Spain	90
Ancona and Pareyson (1968)	Italy	85
Mantell (1971); Mantell and Panzarella (1976)	Germany	85
Schurz (1985)	Austria	80
Shanab and Yahya (1977)	Jordan	73
MILGRAM (1963)	USA	65
Shanab and Yahya (1978)	Jordan	62
Geller (1978) simulation study	USA	51
Burley and McGuiness (1977)	UK	50
Kilham and Mann (1974)	Australia	28

Table 1 - Comparison of the baseline level of obedience in Milgram and subsequent experiments on obedience.

CROSS-CULTURAL REPLICATIONS

Between 1968 and 1986, replications of Milgram's experiments were carried out in eight countries outside the USA.

Ancona and Pareyson (1968) Italy

This study found an obedience level of 85% of student participants (34 of 40). The maximum level was 330 volts (whereas Milgram used 450 volts). Milgram (1963) found 73% obedience for this voltage level; only nine of his original 40 participants did not go to this level or above.

Evaluation

i) Using a maximum voltage of 330 volts may have been perceived as less dangerous, and thus more obedience than with 450 volts. Furthermore, there were only 22 steps on the shock generator (compared to thirty for Milgram).

ii) The use of students who are not typical of the general population. Students make up less than 5% of the population, and their use produces sampling and participant bias in the research (Brewer 2001a).

Sears (1986) noted how students varied from the general population in a number of ways, including that students may be more egocentric, have a stronger need for peer approval, and their self concept may not be fully formed, as well as a higher than average intelligence.

iii) The "victim" was played by a professional film actor who was both visible and audible to the participants. In Milgram's "learner in the same room" version, obedience was 40%.

iv) The "victim" responded with a number of reactions to the voltage, including begging "stop now" at 240 volts. In Milgram's experiment, at between 255 and 300 volts, there is an agonised scream, and the learner shouts: "I absolutely refuse to answer anymore. Get me out of here. You can't hold me here".

v) In post-experiment questionnaires, Ancona and Pareyson found that those who obeyed could be divided

into roughly half:

- (i) those participants who obeyed through their trust of authority, and accepted the responsibility for their actions, and
- (ii) those who obeyed because it was ordered, and downplayed the suffering of the "victim".

**Mantell (1971); Mantell and Panzarella (1976)
Munich, West Germany**

Using 101 men from the general population, this study found a baseline obedience level of 85%. Mantell also included a control group, which Milgram did not, where the participants could choose what level of electric shock to give (known as "self-decision condition"). Obedience was 0% here.

There was also a version of the experiment where the participants were made responsible for their actions. Obedience was 7% in this condition (compared to 2.5% found by Milgram).

Another variation was a condition known as the "delegitimising model condition" where a model was uncooperative beforehand by refusing to shock the learner. The participant saw a confederate refusing to give electric shocks, and this influenced the participants (52% obedience in this condition).

Evaluation

i) Inclusion on a control group is an important part of good experimental design.

ii) It is interesting that this study was in Germany (West) as Milgram had set up his research to explain why the German people obeyed the Nazi leaders and committed many atrocities during the Second World War.

Initially Milgram believed that the German people were different to other people, and, because of the type of socialization that existed in German society, had more of a readiness to obey authority figures (Moxon et al 2003 p218).

iii) The use of males from the general population copied Milgram, who only used female participants in one of 21 experiments. Foster (1997) is concerned about research based upon male participants being generalised to include women.

iv) It has been argued that the participants do not take the experiment seriously, and know that the learner is not really being shocked (Moxon et al 2003). Milgram (1972) argued that the participants showed physical symptoms, like sweating and biting their lips, which could not be feigned.

In post-experiment questionnaires in the German research, the participants reported believing the learner was really suffering by the end of the experiment (table 2).

RESPONSES	NUMBER OF RESPONDENTS
Believed learner was dead or might have died	26
Believed learner was unconscious	23
Believed shocks caused physical damage	5
Believed learner in severe pain but alright	36
Believed learner was "just fine"	9

Table 2 - Responses to post-experiment questionnaire about what was happening to the learner in German obedience study.

Kilham and Mann (1974) Australia

In this research, both male (n = 63) and female (n = 62), first year psychology, students were used. This research added another level of chain of command compared to Milgram. The authority figure gave the command to another individual who passed it to the shock generator operator. In the "active obedience condition" (participants as executant) obedience was 28% overall (ie 40% for males and 16% for females).

In the control conditions, based on choice of level of shock and participant's responsible for their actions, obedience was 0%.

In the "passive obedience condition" (participant as transmitter), where the participant was carrying the message to the shock generator operator, obedience was 54% (males 68%; females 40%) (compared to 92.5% for Milgram).

Evaluation

i) The "victim" of the electric shocks was a "long-haired" student who may have been perceived as more vulnerable or more deserving of shocks than others (Smith and Bond 1993). Milgram used a smartly-dressed middle-

aged man.

Farina et al (1966) found that "victims" who appeared to be "losers" (based upon talking beforehand about childhood) received more shocks than those with positive childhoods and backgrounds. This confirmed the "just world hypothesis" (Lerner 1980) that individuals get what they deserve.

ii) Female students were asked to give electric shocks to a female "victim", and male students to a male "victim". Milgram always used a male "victim" (even in the one experiment with female participants). The level of obedience for the women here was much lower than 65% found by Milgram.

Foster (1997) argued that women in social surroundings with men conformed to male norms, which, in the case of Milgram's experiment, was to be obedient in the aggressive actions.

iii) Obedience increased to 68% for men and 40% for women when instructions to obey were given by the participant and another person actually gave the electric shocks. This type of "passive obedience" is different to the "active obedience" of operating the shock generator machine.

However, the idea of obedience along a chain of command would fit with real life cases of destructive obedience in the army, for example; the My Lai massacre of civilians by US soldiers in the Vietnam war (quoted in Moxon et al 2003).

iv) Foster (1997) argued that there are differences to Milgram in this research in age, education, and social class of the participants, and status of the experimenter.

v) The prompts used by the authority figure to encourage the participant to continue in the Australian research was different to Milgram's. The fourth and final prompt in this research, in particular, was different: "I'm taking full responsibility, so you have no option but to continue with the experiment" (Kilham and Mann 1974 p699).

Milgram's authority figure never formally took responsibility for whatever happened in the experiment. The prompts used were, in order: "Please go on", "The experiment requires it", "It's absolutely essential that

you continue", and finally, "You have no choice".

vi) The difference in results found in Australia may be because of the different time of this research compared to Milgram's original experiment:

A decade of campus unrest and anti-war demonstrations would have made some difference in student attitudes towards authority, whether governments, college administrators, or scientists (Kilham and Mann 1974 p702).

Burley and McGuiness (1977) UK

This Milgram replication found 50% obedience using twenty male undergraduate students at Glasgow University. The research was actually interested in "social intelligence" (the ability to understand others) and altruistic behaviour (in this case, not giving electric shocks).

The mean "social intelligence" score was 106.20 for those who obeyed most, and 126.30 for those who obeyed least (where a higher score means better "social intelligence").

Evaluation

i) The use of students, and males only. Also a small sample of twenty only.

ii) There were only fifteen switches on the electric shock generator going from 15 to 225 volts. Obedience at 225 volts could be perceived by the participants as less serious than at 450 volts.

Shanab and Yahya (1977;1978) Amman, Jordan

(a) 1977

This study is unique among the replications on Milgram because of the use of children: 192 in total from three age groups - 6-8, 10-12, and 14-16 years-old. Overall obedience was 73% compared to 16% for control group. Tables 3 and 4 show the results based on age group.

AGE GROUP (yrs)	EXPERIMENTAL GROUP	CONTROL GROUP
6-8	69	19
10-12	84	12
14-16	66	19

(After Shanab and Yahya 1977)

Table 3 - Percentages of obedience based on age groups in Jordanian study.

AGE GROUP (yrs)	EXPERIMENTAL GROUP		CONTROL GROUP	
	MALE	FEMALE	MALE	FEMALE
6-8	18.19	18.31	6.00	4.94
10-12	18.56	19.44	6.69	6.56
14-16	17.25	18.94	8.37	7.87

(After Shanab and Yahya 1977)

Table 4 - Mean number of shocks (out of 20) based on age and gender in Jordanian study.

Evaluation

i) The use of children is a concern in terms of the ethics of research. Today this research would probably not be acceptable, particularly among psychologists in this country. Milgram was accused of causing his adult participants psychological distress (Baumrind 1964), and this criticism must be equally valid, if not more so, for child participants here.

ii) The use of a control group, where the participants were free to give any level of electric shock, but must increase each time, is a good experimental design.

iii) This research used approximately half males and half females, unlike many of the other replications here.

(b) 1978

The researchers found 62% obedience among 48 male students, and 12.5% obedience in the control group where the participants were told that they were free to shock the "victim" or not.

Evaluation

i) Inclusion of control group allows good comparison of results with the experimental group.

ii) This is the only replication not performed in a "Western" country.

iii) Traditionally, the white-coated scientist is seen as the authority figure in the "West", but Moghaddam et al (1993) argued that in some countries such a figure is not important. For example, in Iran, the mullah would be the authority figure not a scientist.

iv) The level of shocks in both Jordanian studies were higher than Milgram and Mantell (Blass 1992).

Geller (1978) Simulation study USA

This research is different to the others included here because it is a simulation study. It used 91 adult males (between 20-60 years old) recruited by newspaper ads in New York, who had no prior knowledge of Milgram's work.

The scenario was a direct replication of Milgram's original experiment, but all the participants knew the "victim" was a confederate of the experimenter, and that the shock-generator machine did not give electric shocks.

In this research, 51% of the participants obeyed to the maximum shock of 450 volts, and 33% when the experimenter was absent from the room during the experiment. Table 5 shows the results here.

	BASELINE EXPERIMENT	EXPERIMENTER ABSENT
Number of participants going to: 450 v	16/31 (26/40)*	10/30 (9/40)
%	51.29 (65)	33.30 (22.50)
Mean maximum shock range (volts)	345-360 (360-375)	285-300 (270-285)
Participant % obedience:		
"most involved"	50	22.2
"least involved"	70	55.60

* Figures in brackets = Milgram

(After Geller 1978)

Table 5 - Results from simulation study by Geller (1978).

Evaluation

i) This research is based on role-playing only. Many participants do not become "involved" in the situation. This leads to the recruitment of participants who are good at role-playing, and thus introduces the possibility of sampling bias (Brewer 2001b).

ii) The participants knew that there were no electric shocks being given, and probably they obeyed because they were guessing how they would behave if they were in a particular situation (Moxon et al 2003). Furthermore, are individuals asked to role-play themselves or specific others? The discrepancy between attitudes and behaviour suggests that individuals are not necessarily good at predicting their own behaviour (Brewer 2003).

iii) Even with simulation studies, there are problems of "demand characteristics" and "evaluation apprehension". In other words, participants not behaving as they usually would behave in the situation, but changing the behaviour in some way to suit what they think is expected by the researcher.

iv) Individuals who volunteer are not necessarily typical of the general population. Ora (1965) suggested that volunteers are more likely to seek social approval.

v) Simulation studies are an attempt to carry out research without deceiving the participants or causing them psychological distress as Milgram did (Mixon 1979).

Other Studies

a) Miranda et al (1981) Spain

Obedience was over 90% with students as participants.

b) Schurz (1985) Austria

With a general population sample, baseline obedience was recorded at 80%.

The obedience task was based upon giving increasing painful ultrasound to the learner, which, the participants were told, could cause injury to the skin at the highest level. This compares the Milgram tradition of using "painful, but not harmful" electric shocks.

Meeus and Raaijmakers (1986;1995) Utrecht, Holland

This is the largest, most recent series of experiments on obedience - 19 experiments in the 1980s using over 400 participants. It is different to Milgram's research because this research does not use electric shocks.

The measure of obedience was based around making negative comments to an apparently unemployed person preparing for a job interview. Each remark became more negative up to the fifteenth comment, which was the measure of obedience.

In the first experiment, 91% of the participants went to the 15th comment (and 83% in the "baseline replication").

Evaluation

i) There was a control group used. The participants were given no instructions to make the remarks, and the participants could choose which remarks to make. Here obedience was 0%.

ii) The task to insult a stranger was not very challenging compared to Milgram's task of giving electric shocks. Meeus and Raaijmakers also performed two direct replications of Milgram's experiments, and found obedience levels of 57% and 43% respectively.

iii) This research included an experimental version where the participants were given a written description of the experiment beforehand and asked to predict their behaviour. Then in the actual experiment, only 9% obeyed.

iv) In another version of the experiment, participants were told about the procedure in advance. It was expected that obedience would fall in this condition, but it was, in fact, 100%. It may be that individuals who would not have obeyed dropped out after receiving the information about the experiment. This is not known.

v) Meeus and Raaijmakers included role-playing variations of the experiments.

vi) The researchers varied the level of legal liability for whatever happened during the experiments.

Where the participant was liable, obedience was 30%, but it was 67% when the psychology department was liable.

vii) These experiments also included two other conditions used by Milgram - "experimenter absent" (experimenter not in room; for example, gives instructions by telephone), and "two peers rebel" (group of three with one participant and two confederates who refuse to obey) (table 6).

	MEEUS AND RAAIJMAKERS	MILGRAM
Experimenter absent	36	22.5
Two peers rebel	16	10

Table 6 - Percentage of obedience in two experimental versions.

GENERAL EVALUATION

i) All of the research on obedience reported here are experiments. Generally there are problems with the use of the experiment in psychology, including the artificiality of the situation, and whether the participants take the research seriously (ie: act as if it was a real-life situation - validity).

Concerning these issues, Sheridan and King (1972) found high levels of obedience by male and female participants when asked to give real mild electric shocks to a puppies, that could be seen to be suffering.

While in terms of involvement in the experiment, Sackhoff and Weinstein (1988) asked participants to put themselves in personal danger if they obeyed. Seventeen volunteers (13 female/four male) were asked individually by a male authority figure in uniform to get a box from a cabinet with "Danger" on the front. Only 4 of the seventeen (28%) obeyed.

ii) The use of volunteers resolves the problem of gaining informed consent from the participants, but such individuals may not be representative of the general population. This will influence the ability to generalise the findings.

iii) There are different levels of obedience from studies around the world, varying from 16% to 91%. This suggests that the nature of obedience is not universal,

and highlights the importance of the "social contexts which define the meaning of the orders given" (Smith and Bond 1993). Furthermore, the studies take place over 23 years.

Is it possible to explain the different rates of obedience? Hofstede (1980) has attempted to distinguish types of culture using a number of dimensions, including "masculine-feminine". This dimension is concerned with the emphasis on achievement and interpersonal harmony in a culture. It could be argued that high obedience will occur in "masculine" cultures. Hofstede (1983) ranked a number of cultures on the "masculine-feminine" dimension. There is evidence of some relationship between the ranking compared to the level of obedience found (table 7).

Hofstede's dimensions are based on responses to a questionnaire to employees of a well-known US multinational corporation known in the research as "Hermes". The dimensions are not without weaknesses, particularly in attempting to describe different cultures (Smith and Bond 1993).

COUNTRY	RANK OF MASCULINITY	LEVEL OF OBEDIENCE(%)
Austria	2	80
Italy	4	85
Germany (West)	9	85
UK	9 (Great Britain)	50
USA	15	65
Australia	16	28
Spain	37	90
Jordan	no information	73/62

Table 7 - Comparison of ranking of "masculinity" and level of obedience.

iv) Only the research from Jordan is not in a "western" country. How applicable are the findings in "non-western" and/or non-industrialised situations?

v) The participants were mainly students (in five replications) and the remainder were from the general population. In a lesser-known replication, Shalala (1974 reported in Blass 1992) used military personnel at Fort Knox, Kentucky. The authority figure was dressed as a lieutenant colonel, and the participants were low-ranking tank crewman. Obedience was 30% and 0% for the "use own judgment" control group.

vi) The obedience research of Milgram prompted many

other studies on the relationship of individuals to authority figures, and different aspects of obedience.

One example of the subsequent research variations is Brief et al (1995). They used 76 US undergraduate students to test obedience to superiors in a job interview scenario. Participants were given background material (from the superiors) about the job that either was pro-White, pro-Black, or neutral. Then the participants assessed the employability of a number of applicants, but, in particular, the research was interested in the response to black job applicants.

The results showed the participants were influenced by the opinion of the superiors and showed a form of obedience in the choice of job applicant (table 8).

NATURE OF MATERIAL:	PRO-WHITE	PRO-BLACK	NEUTRAL
Mean number of Black candidates chosen	0.88	2.08	1.26
Mean ratings of qualified Black candidates	3.80	4.27	4.23

(After Brief et al 1995)

Table 8 - Summary of results from Brief et al (1995).

The work of Stanley Milgram is seen by some as one of the most important study in social psychology or psychology (eg: Elms 1972). Whether this is the case is open to debate, but certainly Milgram's research has inspired much subsequent interest both directly and indirectly.

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False or Recovered Memories: Some Experimental Research

INTRODUCTION

One of the fiercest controversies today relates to the adult recall of events, often from early childhood, that were forgotten or never recalled before.

When these memories are seen as objectively true, there are called "recovered memories", but if the memories are viewed as planted, then the term "false memories" is used ⁽¹⁾. The intensity of the debate is heightened because the recalled events can relate to trauma, like childhood sexual abuse ⁽²⁾⁽³⁾⁽⁴⁾.

If such memories are real, then the perpetrators should be found out, but when the memories are of events that did not happen, then there are resounding implications. This latter situation led Pamela Freyd to start the "False Memory Syndrome Foundation" (FMSF) in the US in 1992 when her daughter accused her father of prolonged sexual abuse (Pezdek and Hinz 2002) ⁽⁵⁾⁽⁶⁾.

However, such memories feel real to the individual, and they are convinced that it is accurate recall of past events. To think otherwise challenges beliefs about the perceived accuracy of memory and can be unsettling for an individual.

If memories are false, particularly autobiographical ones, the issues becomes how such memories are planted. A small number of experimental studies have attempted to show, in controlled situations, how false memories can be planted in the mind of individuals by suggestion.

EXPERIMENTAL RESEARCH

1. Loftus and Pickrell (1995)⁽⁷⁾: Constructing False Memories

Twenty-four pairs of adults (either parent-child or siblings) were given a booklet containing an outline of four events from early childhood (4-6 years old). One member of the pair was the participant (eg the child) and the other was the interviewer. Three of the events were true, and the information had been obtained from relatives, and the fourth was false.

This involved been lost while shopping, and most definitely had not happened as portrayed in this false scenario. For example, getting lost in a shopping centre that the child had not been to, or while shopping with a family member who did not take the child shopping. The participants were asked to recall as much as possible about the four events in two interviews by the other

relative of the pair.

In the second interview, approximately one month after receiving the booklet, six of the 24 participants (25%) recalled the false event as really happening. When asked to guess which of the four events were false, nineteen participants identified getting lost as a false event.

Analysing the interviews, Loftus and Pickrell found that recalled false events contained less words (mean = 50 words) compared to true events (mean = 138 words). The participants were also less confident about the false event memories (table 1).

MEAN RATINGS	TRUE EVENT	FALSE EVENT
CLARITY OF RECALL (1-10)	6.3	3.6
CONFIDENCE OF ACCURACY (1-5)	2.2	1.4

Table 1 - Mean ratings of clarity and confidence of recall for true or false events.

Problems

i) The recall of being lost as a child is a common experience, and it is not a good incident to use. The participants may have recalled a real experience which the parent or sibling had forgotten rather than the false incident provided by the researchers. There was no independent measure that the event did not occur.

ii) Furthermore, if the false event was too similar to real childhood events, then the participants could be recalling the true information about the story rather than the false event itself. For example, the false incident could be about getting lost in a shopping centre near the beach, as opposed to in the city (which really happened). The relative telling the false story could use real facts about travelling to the shopping centre etc, and simply change the ending or situation to be false.

In fact, Loftus and Pickrell simply asked the relatives to provide "information about a plausible shopping trip to a mall or large department store in order to construct a false event where the subject could conceivably have gotten lost".

iii) Generally most of the participants did not recall the false incident as true, and those that did were not confident about the memories.

iv) Of the six participants who recalled the false

incident as real, they recalled it "either fully or partially". Furthermore, it was not necessary for the participants to recall any additional information other than provided in the experiment (Pezdek and Hinz 2002).

v) The interviews were carried out by the relatives, and thus it was not possible to maintain full control and standardisation compared to the researchers doing the interviews.

Also what is to stop the relatives talking about the events outside the interviews, despite being asked not to by the researchers.

2. Pezdek, Finger and Hodge (1997) Experiment 2: Plausible vs Implausible False Memories

Similar to Loftus and Pickrell, this study used adult pairs (20) of relatives. The participant member of the pair was at least fifteen years old, but were mainly young adults. Three types of events from childhood were used: one true event, a plausible false event (being lost in a shopping mall), and an implausible false one (having a rectal enema). Recall was tested one day and one week after the details of the events were described.

Three participants (15%) recalled the plausible false event as real, but, in this study, this included recall of additional details about the event, beyond what was given. Nobody recalled the implausible event as real.

Plausibility of the false event is important, and in experiment 1, Pezdek et al found that Catholic high-school students were more likely to recall a false Catholic ritual as real than a false Jewish ritual, and vice versa for Jewish students (table 2).

RECALL OF FALSE RITUAL AS REAL	CATHOLIC RITUAL	JEWISH RITUAL
CATHOLIC STUDENTS(n=29)	7 24%	1 3%
JEWISH STUDENTS(n=32)	3 9%	0 0%

Table 2 - Recall of false rituals as real by two groups of high-school students.

Building upon this study, Pezdek and Hodge (1999) used children as participants (19 x 5-7 years-old; 20 x 9-12 year-olds). The parents told the children about events that had happened when four years old. The plausible false events were recalled by 46% of the children as real (53% younger children, 35% older), and

both types of false events by three younger children only one day later.

Problems

The plausible false event was the same as used by Loftus and Pickrell (1995), and so raises similar problems.

3. Hyman, Husband and Billings (1995): False Memories Overlapping with Already-Existing Memory Schema

Experiment 1

Twenty students were presented with descriptions of a false event from childhood (either a birthday party or an overnight visit to the hospital at age five), and true events (based on parents' reports). The participants were interviewed immediately after reading the descriptions, and then up to one week later. At the second interview, four participants recalled the false events (but not at the immediate interview).

However, these individuals had recalled related information to the false events in the first interview. It seems that memories for the false event were incorporated into already-existing memory schema between the first and second interviews.

Experiment 2

This part of the study developed the details of the false events with fifty-one students. The two false childhood events used were more implausible: spilling a punch bowl at a wedding reception, or evacuating a shop when the overhead sprinkler system was activated. The participants were interviewed three times on consecutive days, and were encouraged to think more about the event between each interview.

Recall of the false event increased with the interviews: no false recall in the first interview, nine participants (18%) in the second interview, and 13 (25%) in the third. But in the last interview, only six participants were classed as having a clear memory for the false event (the others were vague or unsure about the memory).

These two experiments show that memory for false events is not a simple present/absent situation, but a developing process.

Pezdek and Hinz (2002) explained:

When a false event is suggested, schema-relevant information in memory is activated. Whether the event will be judged to be true is determined by the extent of the overlap between the suggested false event and the activated memory for the schema-relevant information. If the false event is judged to be true, the details of the generic script for the event can be transported to the memory for the suggested false event (p105).

The more overlap between false events and the memory for real events, the more likely the recall of false events will be seen as real memories.

4. Ceci, Huffman, Smith and Loftus (1996): Age and False Memory

This research used 96 3-6 year-olds with seven to ten interviews over two weeks, and each time the children were encouraged to "think really hard if it happened" about two false events in the last year. The two events were going to hospital after catching a hand in a mouse-trap, and a hot-air balloon ride as a class trip.

The recall of the false events as real was consistent across the interviews - 34% of the children. But the recall of the 3-4 year-olds declined from 44% in the first interview to 36% in the last one. While, for 5-6 year-olds, the figures increased from 25% to 32% respectively.

Problems

i) The children were only asked if they remembered the false event or not, and were not asked to recall information about the event. Thus it is not clear whether answering "yes" to remembering the event is recall or compliance to an authority figure.

This is a problem when almost half of the youngest children answered "yes" in the first interview. In "false memory research", it is important to determine "whether one is assessing a true change in memory or simply individuals' compliance with authority" (Pezdek and Hinz 2002 p107).

Doubt about the findings of Ceci et al (1996) come from Huffman et al (1997), who interviewed twenty-two of the original participants two years later. For the true events, 78% of the participants recalled them again, but only 23% of the false events were recalled again as real. In other words, 77% of the false event memories were recanted after two years. This suggested that many of the original "yes" responses were compliance rather than

memory.

ii) The findings of Ceci et al (1996) are in conflict with earlier research by Ceci et al (1994). This study was very similar in terms of the age groups used, and the number of interviews (12), but here the children were asked to create a visual picture of the event in their head.

The children showed an increase in recall of false events as real between the first and last interview (35% and 45% for younger children, and 25% and 40% for the older ones), and none a decrease.

iii) Interviewing children, particularly in legal situations, is full of difficulties (Brewer 2005).

5. Garry, Manning, Loftus and Sherman (1996): False Memory and Imagination

Garry et al (1996) used participants' own recall of life events as a source of the true and false events. The young adult participants filled in the 40-item Life Events Inventory (LEI), and rated the likelihood of an event having happened before the age of ten (1: "definitely did not happen" to 8: "definitely did happen").

Two weeks later, half the participants were asked to imagine that four events had happened (called "imagination inflation"), and then redo the LEI.

Focusing upon the participants who rated the four events as low likelihood (rating 1-4) in the first LEI, 34% of them increased the rating of likelihood of happening after imagining the event (compared to 25% of the non-imagining group). The authors felt that imagining that false events happened increased the confidence of the events being recalled as real.

Problems

i) Pezdek and Hinz (2002) argued that the increased confidence about an event happening was for both the imagining and non-imagining groups because the results reflected regression toward the mean on the 1-8 scale used in the LEI.

Further evidence of this comes from the participants who scored 5-8 on the likelihood scale of the first LEI. Some showed increases in confidence by the second LEI (10% for the imagining group and 24% for the non-imagining group), but more showed a decrease (43% and 46% respectively) (table 3).

LIKELIHOOD SCORE	IMAGINING GROUP		NON-IMAGINING GROUP	
	1-4	5-8	1-4	5-8
DECREASE	9	43	10	46
SAME	57	47	65	30
INCREASE	34	10	25	24

(After Pezdek and Hinz 2002)

Table 3 - Per cent of responses for LEI on two occasions based on first rating of likelihood of an event occurring in Garry et al (1996).

Pezdek and Eddy (2001), in a replication of Garry et al, confirmed the argument that "simply imagining a fictitious childhood event does not increase the probability that the event will be planted in autobiographical memory" (Pezdek and Hinz 2002 p111).

ii) Pezdek and Eddy (2001) added a rating of likelihood of the life events having happened that were not being studied nor imagined (non-targets) (another form of control). The changes in ratings of non-targets showed the same patterns as the imagining and non-imagining groups, and high and low likelihood scores in the first LEI (table 4).

LIKELIHOOD SCORE	IMAGINING GROUP		NON-IMAGINING GROUP		NON-TARGET	
	1-4	5-8	1-4	5-8	1-4	5-8
DECREASE	11	54	10	53	8	41
SAME	50	32	65	35	62	49
INCREASE	39	14	25	12	30	10

(After Pezdek and Hinz 2002)

Table 4 - Per cent of responses for LEI on two occasions based on first rating of likelihood of an event occurring in Pezdek and Eddy (2001).

iii) Maintaining standardisation of the imagining procedure. In other words, some individuals may be better than others at imagining, or may concentrate harder.

iv) Two weeks is quite a short time between the first and second administering of the LEI. In cases of test-retest reliability for questionnaire, there is a concern that individuals simply remember what they said last time if the interval is too short, rather than answering according to their current feelings (Coolican 1990).

v) There is the possibility of "demand characteristics" in any research, but here the participants are asked to imagine four particular events as having happened, and this gives clear clues to the experimental hypotheses. "Demand characteristics" can lead to participants changing to behave as expected (Orne 1962), or away from expectations (the "screw you effect" - Masling 1966).

6. Mazzoni, Loftus, Seitz and Lynn (1999): Dream Interpretation and False Memory

Using a procedure similar to Garry et al (1996), this research focused upon a 20-item LEI, and the likelihood of events happening before three years old (scale 1-8). The two target events were "harassed by a bully" or "lost in a public place for more than one hour". The time between the LEIs was 3-4 weeks, and participants rating 1-3 on the first occasion for the target events were used in the research.

Half of these participants, in the 3-4 week period, were given a dream interpretation session. A clinical psychologist suggested that participants' dreams showed signs of being bullied or lost as a young child. Where the participants changed their ratings on the second LEI for the target events, it was more likely to be an increase in likelihood of the events having occurred in the dream interpretation condition (table 5).

	DREAM INTERPRETATION CONDITION	CONTROL CONDITION
DECREASE	4	31
SAME	46	58
INCREASE	50	11

Table 5 - Per cent of responses for LEI on two occasions of likelihood of two events occurring, based on experimental or control condition, in Mazzoni et al (1999).

Problems

i) This experiment is not actually planting the false memory during the dream interpretation condition. Rather it is giving the participants a reason why they may have been bullied or lost as a child (Pezdek and Hinz 2002).

ii) Participants after the dream interpretation condition could be influenced, but not necessarily about being bullied or lost before age three, only that the events had happened in their early childhood at some age.

iii) Some of the participants admitted inferring that the events happened rather than actually recalling them (eg: "I was walking beside my mother in a public place, so there is a chance I got lost in a public place").

iv) Again the target events were common experiences, and what is being recalled could be real autobiographical memories.

Pezdek and Hinz (2002) were not convinced that the "memory for the target event was changed through dream interpretation".

CONCLUSIONS

Table 6 lists the general conclusions from experimental work on recall of false events

EVIDENCE OF INFLUENCE	NOT CLEAR
- Plausible false events	- Imagining false events
- Prior knowledge of the false event ie already-existing memory schema	- Use of dream interpretation to suggest false events happened
- Young children more suggestible	

Table 6 - Factors affecting recall of false events as real.

Pezdek and Hinz (2002) listed two general problems with experimental research on the recall of false events:

i) Operationalisation of "false memory" - simply saying that the event is remembered or adding new

information in the recall? Also distinguishing between recall and compliance, particularly for children;

ii) An ability in the research to distinguish between recall of the false event and details of similar true autobiographical events. This requires extensive interviewing of relatives to give details of the participants' past. But how accurate or comprehensive are these memories?

Taking the middle point, some recovered memories are of real events and others of false events. But the question is how to distinguish one from the other.

Tavris and Wade (1995) suggested scepticism in relation to recovered memories and therapy when:

- a) Clear early memories appear after therapy;
- b) The memories increase in bizarreness with therapy;
- c) The therapist makes diagnosis of sexual abuse early in the sessions;
- d) The therapist uses techniques that alter consciousness, like hypnosis, or drugs that reduce inhibitions.

In conclusion:

The feeling generally is that sustained abuse would not be completely repressed. Individual events may be repressed, but severe trauma is more likely to produce Post-Traumatic Stress Disorder symptoms, where the event cannot be forgotten (Brewer 2001 p71).

FOOTNOTES

1. Tavris and Wade (1995) explained the distinctions, using child sexual abuse as an example (figure 1):

SEXUAL ABUSE AS CHILD?			
		YES	NO
REMEMBERS ABUSE?	YES	true memory	false memory
	NO	no memory of abuse (potential recovered memory)	none

Figure 1 - Distinctions between false, recovered and true memories.

2. A flavour of the debate appears in Holmes (1994) and Schacter (1995).

3. Memory for an event that did not happen can simply be a mistake at one end of the spectrum, through to "false memory syndrome" at the other.

Kihlstrom (1998) defined "false memory syndrome" as:

...a condition in which a person's identity and interpersonal relationships are centred around a memory of a traumatic experience which is objectively false but in which the person strongly believes. The memory often rules the individual's entire personality and lifestyle and disrupts all sorts of other adaptive behaviours. The memory tends to take on a life of its own, encapsulated and resistant to correction. The individual avoids confrontation with any evidence that might challenge the memory and may be effectively distracted from coping with the real problems of living (quoted in McLoughlin and Standring nd).

4. Attempting to negotiate a path through the debate, professional organisations have questioned their membership (eg: Andrews et al 1995, 2001: British Psychological Society - 67% believed in the possibility of false memory), reviewed the literature (eg: Brandon et al 1998: Royal Collage of Psychiatrists), and drafted guidelines for psychologists working with clients where "recovered memories" may occur (eg: Frankland and Cohen 1999).

5. The "British False Memory Society" (BFMS) was set up in 1993. Gudjonsson (1997) analysed the membership and background of the BFMS.

6. Two key questions stand out (McLoughlin and Standring nd):

a) Can real memories be repressed (ie: forgotten) and then recovered/recalled?

To answer this question as yes depends upon the ideas of Sigmund Freud (1905, 1916), and the concepts of repression and infantile amnesia. Experimental support for repression comes from Levinger and Clark (1961) and the failure to recall negative or painful words.

While Williams (1994) found that 38% of 129 women known to have been abused as children did not report these experiences to interviewers seventeen years later. But this could be as much about disclosure as recall (Femina et al 1990).

b) Can false memories be implanted?

The theoretical basis here is the work on reconstructive memory and eye-witness testimony, most

prominently by Elizabeth Loftus since the 1970s (eg: Loftus 1979,1996), and the fact that ordinary memory is not perfect.

7. This is an experimental version of work reported in Loftus and Ketchum (1994); see also Loftus (1997).

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